



Queensland University of Technology
Brisbane Australia

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Title: Mothers' Sleep and Driving in the Postpartum Period

Introduction: Previous studies investigating mothers' sleep in the postpartum period commonly demonstrated elevated levels of sleepiness in this population. A Karolinska Sleepiness Scale (KSS) rating of 5 or above is associated with an exponential increase in vehicle crash risk. To date, no studies have investigated the relationship between mothers' sleep in the postpartum period and their driving behaviour.

Methods: Sleep-wake diary data was collected from 14 mother-infant dyads during two 7-day assessment periods when the infants were 6 and 12 weeks old. The mothers' indicated all driving episodes during these weeks and their respective sleepiness level using the KSS. Semi-structured interviews were conducted with the mothers when their infant was 12 weeks old.

Results: The infants slept significantly more than their mothers at 6 weeks and 12 weeks of age. During both time points, mothers and infants had a similar number of night awakenings (waking between 22:00 and 06:00), with some mothers experiencing greater than 19 awakenings over 7 nights. Notably, 36% of the mothers did not experience a continuous sleep period longer than 4.5 hours when their infant was 6 weeks old. A total of 141 driving episodes were reported during the 7 day assessment period when the infants were 6 weeks old. Over 50% of the driving episodes were denoted with a KSS score of 5 or above. Strategies mothers cited they employed during this period included only driving when feeling alert, postponing driving until another person is present, and driving in the morning when less sleepy.

Conclusion: Mothers are experiencing disrupted sleep at night and some mothers do not obtain more than 4.5 hours of continuous sleep during the early postpartum weeks. In this sample, some mothers reported self-regulating driving behaviour, however over half of the driving episodes were undertaken with a sleepiness rating linked with elevated crash risk.